**A MODEL FOR THE PUBLIC FINANCING OF ENTREPRENUERIAL FIRMS:
ALBERTA'S JUNIOR CAPITAL POOL PROGRAM**

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ABSTRACT

Entrepreneurial firms face significant difficulties when raising equity capital. Public equity markets that might represent a significant source of capital have been relatively inaccessible, and past programs designed to facilitate this access have been unsuccessful. Programs that do not account for the special financing needs of entrepreneurial firms have performed poorly. We study Alberta's Junior Capital Pool (JCP), a program that since 1986 has been helping high-risk small firm ventures gain access to Canada's public equity markets. On the surface, the program is similar to U.S. blind pool programs; however, Alberta's more comprehensive regulations not only provide better surveillance but also address the specific needs of these firms. We study the 1,070 JCP's listed from 1986 to 1999, approximately 70% of which were still listed on the Alberta Stock Exchange (ASE) by the end of 1999. Our database records the growth of an initial equity base of $113.7 million, but JCP entrepreneurs went on to build an aggregate equity capital base of $3 billion. While our study finds that the program works best for firms managing tangible assets, we also document how the program has benefited firms in other industries.

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1.   Introduction

Entrepreneurial, growth oriented, firms face difficulties in raising the equity capital they need to support their development. While public equity markets represent a potential source of capital for these firms, experience in many jurisdictions with special programs designed to assist entrepreneurial firms has been negative. Part of the problem with such programs is that they assume entrepreneurial firms are just smaller versions of large public companies, and all that is needed to help entrepreneurial firms succeed is to provide them with access to capital. Experience has shown that the business development needs of entrepreneurial firms are significantly different from the needs of larger firms, and any program designed to assist the entrepreneurial firms must address these different needs. One special program to assist entrepreneurial firms raise public equity market capital that has addressed the specific needs of this type of firm has been operating in Canada for a number of years.

Alberta's Junior Capital Pool (JCP) program was started in 1986 to provide entrepreneurs with the ability to access the public equity markets. Since its inception, the program has resulted in the public listing of over 1,000 firms which have been able to lever their initial equity investment of $314 million to over $3 billion in a fifteen year period. Along the way, the program has resulted in some amazing success stories. The founders of Boardwalk Equities, a real estate and property management firm, invested $75,000 of their own capital and raised an additional $200,000 in the public equity market in January of 1994. By the end of 2004 Boardwalk was listed on the New York Stock Exchange with assets of $1.809 billion, revenues of $282.5 million, and an equity base of $385.5 million. We well, Boardwalk shareholders had experienced a price appreciation of 7,280% from the firm's IPO price of $0.25. Another former JCP firm, Aastra Technologies grew from an initial equity base of $500,000 in November 1995 to a market capitalization of $358 million in December 2004.

The JCP program was designed to effectively address the difficulties faced by small entrepreneurial ventures. These firms face difficulties attracting equity capital because of three types of investment risk: market, agency, and liquidity. As discussed by Fiet (1995) and Wright

and Robbie (1998), market risk denotes a broad class of uncertainty: capability to develop viable products, customer demand once the product is developed, the speed with which customers adopt the firm's products, and the nature of market competition.

Agency uncertainty results from information asymmetry between the firm's management and its key investors. Information asymmetry has two dimensions: adverse selection and moral hazard. Adverse selection means that the wrong firms come to the markets looking for capital. Entrepreneurs with a strong investment opportunity are less likely to seek external capital in order to retain their ownership of the firm. As a result, investors are concerned that poor quality projects are overrepresented in the small firm equity marketplace. The second aspect of informational asymmetry, moral hazard, is the way that outside investment changes the behavior and incentives of the entrepreneur. As discussed by Jensen and Meckling (1976) and Sood (2003), entrepreneurs may act differently after outside investors have contributed capital than if they had invested their own funds. Typical concerns include: the entrepreneur drawing an excessive salary or consuming excessive perquisites, withholding negative information about the firm, providing false positive information to artificially inflate the stock price, investing in negative net present value projects, shirking, or entrenchment of their position within the firm. The adverse selection and the moral hazard problems combined create significant agency risk for outside investors.

Liquidity risk relates to the limited ability of investors to sell their position in an entrepreneurial firm. For private equity investors, their investment could be tied up for several years until the investee firm experiences a liquidity event. Public equity markets provide a liquidity advantage to entrepreneurial firms; however, this requires development of an active secondary market.

The private market has two main types of participants: formal (venture capital) investors and informal (angel) investors. Fiet (1995) notes that formal investors use stringent screening to mitigate market risk and hands-on governance and monitoring mechanisms to manage agency risk. Informal investors, on the other hand, are more concerned with agency risk than market risk. Formal investors seek investments in a small number of technology-oriented firms that have extremely high growth potential. Firms in other industry sectors, or firms with more

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modest growth expectations, usually find their access to formal private equity capital severely limited. These types of firms may be attractive to informal private equity investors, but the capital available from this investor group for any given firm is limited to a few hundred thousand dollars.

The public equity markets help fill the financing gap for many small entrepreneurial firms but are expensive to access. As well, there are other problems with the development of entrepreneurial firms that have not been effectively addressed with many second-tier equity market programs. This paper examines how the JCP program provided cost effective access to public equity markets.

In Section 2, a more formal discussion of the problems involved in the public financing of small firms is provided. This section identifies key corporate governance deficiencies with respect to small public firms and suggests how regulators could play a role in mitigating these difficulties. Section 3 provides a review of the past international experience in developing programs to provide access to public equity markets for small public firms. Section 4 discusses the characteristics of the Junior Capital Pool program, and in section 5 the JCP program is evaluated on the basis of its contribution to the financing of small public firms in Canada. Section 6 summarizes the study findings, presents conclusions regarding the effectiveness of the JCP program, and provides some thoughts on whether the program can be effectively adopted in other jurisdictions.

2.   Governance Problems Associated With Entrepreneurial Firms

The international capital market system has evolved to the point where millions of individual investors entrust their savings to thousands of management teams, without ever interacting with these teams. This investor trust is founded on the belief that public corporations are effectively governed, although academics (Jensen, 1989), and recent scandals challenge this belief. It is known, however, that the large public corporation has experienced a continuous evolution in the number and types of internal and external governance mechanisms.

An important internal governance mechanism is the structuring of appropriate incentive contracts so that, irrespective of their motivation, managers will act in the shareholders' best interest. Another important internal governance mechanism is the firm's board of directors,

specifically, the outside directors who are respected members of the business community concerned with maintaining their reputation (Fama & Jensen, 1983).

External governance mechanisms include a concern by directors about becoming the subject of class-action lawsuits when firm performance deteriorates, the presence of security analysts, an increased use of the proxy mechanism by dissatisfied shareholders (Campbell, Gillan & Niden, 1999), and an increased ownership stake of firms by large institutional investors which are becoming more activist (Carleton, Nelson & Weisbach, 1998; Schism, 1994; Wahal, 1996). Another effective governance mechanism is the market for corporate control in which negative share price performance can provide the incentive directors need to replace management (Coughlan & Schmidt, 1985; Warner, Watts & Wruck, 1988; Weisbach, 1988) or which can trigger a takeover contest (Jensen, 1993; Manne, 1965).

Finally, one of the foundations for the international capital markets is a regulatory environment designed to protect smaller investors. Securities regulators, and stock exchanges, help protect investors through a series of procedures including the establishment of minimum listing requirements, the registration of a firm's prospectus, required continuous firm disclosure, and ongoing monitoring of listed firms. Recently regulators for many countries have also developed mandatory or voluntary corporate governance guidelines for publicly listed firms.

Small, entrepreneurial, public companies have vastly different characteristics from large public firms. They have smaller, less experienced, management teams and boards (Lorsch, Zelleke & Pick, 2001), less established customer relationships, and pursue less diversified business strategies. Small firms also have higher levels of information asymmetry and have more potential for capital constraints (Fazzari, Hubbard & Peterson, 1988; Hoshi, Kashyap & Scharfstein, 1991).

Small public companies should theoretically have lower agency costs than large firms due to the high ownership stake of the managers, who are typically firm founders. Jensen & Meckling (1976) suggest that a higher ownership stake will more closely align the interests of managers and outside shareholders. There are, however, several agency problems that could become worse as management ownership increases: withholding negative information about the firm, providing false positive information to artificially inflate the stock's price, investing in

negative net present value projects, shirking, or entrenchment of their position within the firm. Morck, Shleifer and Vishny (1988) note that firm performance increased as insider ownership increased from 0% to 5% (due to the alignment of management and shareholder interests), but decreased as ownership ranged from 5% to 25% (due to entrenchment effects). With insider ownership over 25%, they noted a small improvement in performance. Later evidence (McConnell & Servaes, 1990) found a modest improvement in performance as insider ownership ranged from 0% to 50%, with a decline above 50%. Clearly, a high insider ownership stake does not necessarily lead to improved firm performance. An additional problem with small public firms is that they tend to have insider dominated boards of directors which limits board effectiveness.

External governance mechanisms are also limited with small public companies. Although management actions and firm performance are observable ex-post, the higher levels of uncertainty associated with small firms makes it difficult to determine whether poor performance is due to management misbehavior or changes in business conditions. In the absence of fraud, legal recourse is not sufficient to protect investor rights because uncertainty over technological development or market evolution preclude the courts from identifying agency problems. As well, the costs of litigation may exceed the wealth level of a failed entrepreneur making it less likely that a dissatisfied investor will launch a lawsuit. Further governance problems include the high stock ownership by insiders which makes proxy contests unlikely and severely limits the market for corporate control, the absence of institutional shareholders, and the limited following of small firms by analysts. Finally, the regulatory system has been found in certain situations to be ineffective in limiting the actions of insiders of small public firms (Holdman, 1984; Stern, Schifrin & Poole, 1989).

The above points suggest a large problem with the governance of small entrepreneurial public firms. To overcome some of the problems in public board governance, several authors have argued that firm directors should act more like venture capitalists (Bhide, 1994; Porter, 1992; Thurow, 1994). Private firms that attract venture capital investment have similar characteristics to small public companies: they have an inexperienced management team, inexperienced directors, less established customer relationships, and stock that is closely held by

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the firm founders. Thus, it is worthwhile considering whether the governance methods used by the venture capital (VC) industry, which has developed from a very limited source of capital for small growth-oriented firms in the mid-1970s to a multi-billion dollar annual source in the late-1990s (Gompers & Lerner, 1999), can assist with the governance problems inherent in entrepreneurial public firms. While there are limits to whether these VC mechanisms can be fully implemented, it is possible that the regulators of small public companies can adapt some ideas from the VC governance model to enhance the protection of investors, and increase the chance of firm survival.

The VC industry has developed multiple mechanisms in response to the agency problems associated with their investee firms. VC firms take a portfolio approach (Admati & Pfleiderer, 1994) to lower their exposure to any one firm, and will fund in stages (tranches) based on demonstrated firm development (Bergemann & Hege, 1998). Structuring firm investment as a series of stages provides for the resolution of uncertainty about managerial capability and commitment, and motivates managers to focus on increasing firm value over time by posing the threat of otherwise diluting their ownership interest significantly (Gompers & Lerner, 1999). Contracting also provides another strong control mechanism on the actions of firm managers (Triantis, 2001). Each VC deal involves a detailed negotiation between the VC investor that usually includes share and option escrow provisions to prevent shirking or early exiting from the firm by managers (Gompers & Lerner, 1999). Furthermore, VC firms make significant use of unanimous shareholder agreements (USA) to control management behaviour (Scarvone, 1997). USA agreements allow outside shareholders to have veto power over certain firm decisions usually reserved for the board of directors, e.g. setting executive compensation, approval of major capital expenditures, and approval of the business plan.

Thus, it is possible that imposing some VC-like control measures on a small public firm may help mitigate some of the agency problems in this investment situation and lead to enhanced firm performance, and better protection for shareholders. In the absence of a large motivated VC investor to establish these controls through a direct negotiation with the firm founders, it is possible that standardized regulatory provisions applied to all entrepreneurial public firms could serve to align the interests of firm managers with shareholders. The VC-like governance

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measures regulated as part of the JCP program will be discussed in Section 4.

3.   A Review Of Entrepreneurial Firm Public Equity Market Programs

Seguin and Smoller (1997) report an inverse relationship between initial public offering (IPO) price and a firm's mortality rate, while Brav, Geczy and Gompers (2000) report that small firms perform much worse than larger firms following an IPO. Thus, there is some evidence that the public listing of smaller firms on major stock exchanges is problematic.

To overcome some of the high cost of listing on major stock exchanges, many countries have developed initiatives designed to facilitate the public listing of small firms on second-tier markets. One such U.S. program allowed promoters to set up a "Blind Pool" stock offering in which shareholders invested in companies with no earnings history, and with little indication of how the money being raised would be spent. Unfortunately, the experience of U.S. investors with blind pools was negatively affected by agency problems. Out of a sample of sixty U.S. blind pools in existence in 1986, only one-third were trading at a price above the initial subscription price (see Stern and Bornstein (1986, p. 40.). At that time, one blind pool underwriter estimated that only two percent of blind pools would become successful businesses. One problem with the program was that dishonest promoters used the fact that securities regulations, especially for small stock offerings in certain states, were inadequate or supervision was lax to defraud investors of millions of dollars (Holdman (1984); Stern, Schifrin and Poole (1989)).

Another U.S. second-tier equity program started by a major stock exchange also experienced problems. The American Stock Exchange (AMEX) developed an Emerging Company Marketplace that "… opened in 1992 and closed in 1995 after a series of scandals related to both market manipulation and the failure of the AMEX listing department to supervise the companies properly" (Kirzner, 1997: 680).

Even in the absence of agency problems, second-tier equity markets are often affected by a lack of liquidity. In Europe, junior exchanges gained a reputation for containing inferior securities when the stronger firms grew and migrated to more senior markets, leaving the weaker securities behind (Rasch, 1994). In studying the development and decline of special stock market segments for small firms on European exchanges, Rasch noted that when there is a decline in trading

for these types of firms there develops a "Vicious Circle" of illiquidity. There are two elements to this circle: flow of information, and flow of funds. Within the flow of information circle, a lack of stock exchange turnover leads to a low demand for research about the companies and thus low incentive for brokerage firms to generate the research. Without the research, however, there is low investor interest in the securities and thus a low level of stock turnover. Within the flow of funds circle, low stock turnover creates an illiquid secondary market for these securities which increases the transactions costs in this market. The higher transactions costs reduce the incentive of investors to trade in these securities and thus leads to low investor interest and low levels of trading.

MacIntosh (1994) notes that there exists a "catch-22" in the development of a market for junior equities. Primary offerings in such a market are not likely to be successful unless there is some assurance that there will be an active secondary market following the initial listing. Unfortunately, an active secondary market for such securities cannot develop until there have been successful primary offerings in the market. Further complicating the issue is the fact that the large underwriting firms in a country are unlikely to be interested in participating in the issuance of junior equity issues. In the US, Wolfe, Cooperman and Ferris (1994) find that prestigious underwriters avoid the smaller, riskier, new issues. Large underwriting firms avoid the smaller firms for three main reasons. First, they are concerned about the reputation of their firm being affected if they begin to participate in the underwriting of the smaller firms. Second the underwriting commission is typically a function of the issue size and thus the larger firms have an incentive to participate in only the larger size issues because of the overhead associated with maintaining their position as a prestigious firm. Finally, as Rasch (1994) notes, the low turnover of the small firms makes it unprofitable for the brokerage firms to research the companies because the costs associated with collecting and processing the company information will not be recovered by brokerage commissions.

Clearly, the market for junior equity offerings is subject to high agency and liquidity risk. In commenting on the failure of the Unlisted Securities Market (USM) and the Third Market in the U.K., and in the problems with the Alternative Investment Market (AIM), Chiu (2004) identifies another problem. He notes that the regulatory system may have to be modified to address the specific needs of small firms. He states, "… the AIM is founded upon the

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assumption that admission to trading requirements are by themselves the key factor to improve small business access to capital. This may be erroneous." (Chiu, 2004; 965). He suggests that a special regulatory regime needs to be established for small firms to lower their cost of accessing the public equity markets.

4.   Overview of Alberta's Junior Capital Pool Program

In Canada, securities regulation falls under a province's jurisdiction and thus regulations can vary by province.[1]   Alberta's Junior Capital Pool (JCP) program was created as a provincial response to a small firm trying to access the public equity markets in the fall of 1985 using a blind pool concept. As this was a new, and controversial, method of financing in Canada, the Alberta Securities Commission (ASC) held a hearing in November 1985 before allowing the firm's prospectus to be listed. The firm had proposed raising $50,000 of equity capital by selling shares to a group of insiders, and to the investing public, at a price of $0.05 each. The money would be used to finance the listing of the firm on the Alberta Stock Exchange (ASE) and the investigation of participation in oil and gas ventures. The ASC approved the prospectus and, as both the inside and outside investors were paying the same amount per share, the ASC ruled that there was no need to hold any portion of the inside investors' shares in escrow.

The firm was listed on the Alberta Stock Exchange on April 18, 1986, and over the next few months additional blind pool stock offerings were made to the investing public in Alberta. The first seven of these offerings were underwritten by the same underwriter and the blind pool experiment got off to a rocky start when the second firm listed had its share price rise from $0.05 to $8.00 soon after listing. The stock price subsequently fell significantly and two members of the underwriting firm, along with others, were arrested and charged with stock manipulation. Outside investors lost an estimated $2 million from trading in this stock, and the underwriter was shut down after a large capital deficiency was discovered. As a result of these problems, the Alberta Securities Commission placed a moratorium on new blind pool stock offerings in October 1986 until the program could be reviewed.

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[1] Provincial regulators belong to the a national policy group that seeks to harmonize regulations and has developed National Policies (adopted by all jurisdictions) and Multilateral Instruments (adopted by several jurisdictions).

In November 1986, after a series of public hearings, the moratorium on blind pools was lifted, and a new set of regulations governing this form of financing were imposed. To overcome the negative publicity and connotation of the name, blind pool, the program in Alberta was renamed the Junior Capital Pool Offerings. The stated objective of the Junior Capital Pool program was:

> "The Junior Capital Pool concept is designed to provide junior start up companies with an enhanced opportunity to become listed on The Alberta Stock Exchange thereby providing a viable and efficient mechanism to enable junior companies to raise further equity capital from the investing public. The Exchange recognizes however that as the listing and prospectus disclosure requirements for Junior Capital Pool Companies are substantially less than what is required for other companies, additional requirements are necessary to provide the market with sufficient disclosure and to limit abuse of this system."[2]

The JCP program entailed a firm raising capital in two stages. During the first stage a group of founders, management and directors, pooled their capital (called seed capital) and then raised money from the investing public (IPO capital) to create a shell company. This shell company then had 18 months within which to complete the second stage, a major asset acquisition termed a Major Transaction (MT), which would transform the JCP into a regular, listed ASE firm. Essentially, the program provided cash for underwriting expenses and some administrative and due diligence expenses, and an 18-month window, within which the JCP founders needed to find a suitable company to bring into the public equity marketplace.

Each JCP had to operate as a true blind pool, and could not have signed any contracts before becoming listed. It was possible, however, for a firm to have entered into letters of intent prior to listing and thus some JCPs were used by firms as an alternative method of going public. It is clear that such a program could be subject to large agency problems if appropriate regulations were not placed upon the firm founders. The ASC draw heavily from the area of VC control techniques to ensure protection of the outside investors' capital, and to provide the founders with a strong incentive to create value in the firm for all shareholders. Specific regulations included the following:

- As this program was only approved in the province of Alberta, all IPO shares had to be sold in that province only. Since the majority of JCP firms were domiciled in Alberta, this had

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[2] See Circular No. 7, The Alberta Stock Exchange, June 1990, p. 7-1.

the outcome of placing the firm and its shareholders in close proximity to each other, which created reputational risk for the firm founders, and improved monitoring capabilities for the investors.

- The program was designed to provide starter capital to allow entrepreneurs to get a public firm listed. The total amount that could be raised by any JCP in the first round of financing, including seed and IPO capital, was limited to $500,000. This required that JCP firm founders would need to come back to the capital providers for additional funds to implement their business plan, another VC control technique.
- To prevent misuse of the funds in the pool, the founders were not allowed to draw any salary, or consume any perquisites, until the JCP had completed its major transaction.
- To prevent squandering of the pool funds, 75% of the funds had to be reserved for completion of the major transaction.
- One hundred percent of the seed shares were required to be held in escrow at the time of initial listing of the security. One-third of the escrowed securities would be released on the first, second and third anniversary of the firm's Major Transaction. Thus, the founders of the JCP could not realize any gain on their shares until they had transformed the firm into a regularly listed ASE firm.
- If the firm had not completed a Major Transaction within 18 months of being listed, the firm would be suspended and then ultimately delisted if no transaction was forthcoming.

To prevent the founders of the firm from misusing the pool assets at the time of the Major Transaction, the regulations were very specific with respect to what constituted a Major Transaction.[3]

2.5 **"Major Transaction"** means a transaction whereby a Junior Capital Pool Company:

2.5.1 issues more than 25% of its issued and outstanding securities prior to the completion of the Major Transaction to acquire assets (other than cash) or securities of another issuer;

2.5.2 enters into an arrangement, amalgamation, merger or reorganization with another issuer with Significant Assets[4] other than cash, whereby the ratio of securities which are distributed to the two sets of security holders results in the security holders of the other issuer acquiring control of the resulting entity;

2.5.3 acquires Significant Assets[4];

2.5.4 issues more than 25% of its issued and outstanding securities prior to the completion of the Major Transaction for cash.

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[3] See Circular No. 7, The Alberta Stock Exchange, June 1990, p. 7-1, 7-2.

[4] Significant Assets means assets (other than cash) or securities of another issuer whereby the value exceeds $200,000 or such lesser amount as is acceptable to the Exchange.

Protections provided to public shareholders with respect to the Major Transaction included:

- Any assets acquired must be Canadian. This would allow investors to have more certainty about ownership, valuation, and legal protection of the property rights of the asset.
- The outside shareholders were provided with an effective veto over any Major Transaction. To protect outside investors in a JCP, the seed investors were required to provide full disclosure regarding the details of the Major Transaction prior to its implementation, and the majority of the outside shareholders were required to approve the transaction before it could take place.

Thus, the VC-like governance mechanisms of the JCP included founder share escrow provisions (to remove the incentive for short-term share price manipulation and early founder exit), limits on the use of the firm's capital by the firm founders (to prevent the drawing of excessive salaries), providing a veto over the use of proceeds to the outside shareholders (to prevent investment in negative NPV projects), a need for the founders to come back to the capital providers when additional funds are needed, and a requirement to initiate a Major Transaction within a predefined time period (to prevent shirking). Finally, the ASC created additional regulations to provide protection for investors, some based on the VC diversification model, and to enhance secondary market liquidity:

- All IPO offerings were required to be conducted by registered investment dealers who were bound by "Know your Client" rules. Thus, any investor who purchased JCP shares would have been provided with an assessment of the JCP's risk profile and would be required to have a risk tolerance suitable to that type of investment.
- Each IPO was required to have at least 300 individual shareholders to provide for wide distribution of the JCP shares. If the number of shareholders fell below this number the JCP would be at risk of becoming delisted.
- Each shareholder was allowed to purchase no more than 2% of any IPO offering, which limited the dollar amount of capital an outside investor could put in any one deal to a few thousand dollars. This forced the investor to diversify if they wished to invest a large amount of capital in this type of security, and also created a reasonable amount of public float for each JCP issue.

It was not a requirement of the regulator, but many underwriters provided secondary market support to a new JCP issue to enhance its trading liquidity for a short period following its IPO.

5. **Empirical Analysis of the JCP Program**

The JCP program was very successful in the late 1980's in increasing the number of firms

that were publicly listed in Alberta; however, the use of the program diminished during the Canadian economic slowdown of the early 1990s, see Table 1[5]. Beginning in 1993 the program became popular with Canadian issuers again and from 1986 until 1999 the program resulted in 1,070 firms being listed on the Alberta Stock Exchange with a total initial market capitalization of $314.546 million ($113.735 million being invested by founders in seed shares and $200.811 million being sold to public market investors). Once listed these firms were very successful in attracting secondary equity financing as the total amount of capital raised by JCP firms to the end of 2000, including secondary market offerings, was calculated by the Canadian Venture Exchange (2001) to be over $3 billion. Table 2 illustrates that the average amount of seed, IPO and total capital, raised by JCP firms increased steadily from its inception in 1986 to 1999.

The JCP had a strong local orientation and 672 of the firms listed were from Calgary, the business capital of Alberta and home to the Alberta Stock Exchange, 96 firms were from Edmonton, the political capital of Alberta, and 20 additional firms were from other locations in Alberta. The program did succeed in attracting 139 firms from the neighboring province of British Columbia, (a province with a history of junior equity issuances on the Vancouver Stock Exchange), 86 firms from the province of Ontario, (Canada's most populated and wealthiest province), 29 firms from Quebec, 24 firms from the rest of Canada, 3 firms from the U.S. and 1 firm from an international location.

One of the criticisms of the regulation of second-tier equity markets in the UK, identified by Chiu (2004), is the high cost to become listed. He notes that the AIM initial listing costs of £75,000 to £100,000 are too high given the average capital needs of £60,000 to £150,000 for most entrepreneurial firms. The JCP program was started as a low cost way of allowing a firm to become publicly listed. The first JCP was listed at a cost of $6,000, while the typical cost to list a security on the ASE at the time was $70,000 to $150,000. In the early years of the JCP program, investment dealers were willing to sell the issue without earning commission costs; however, the

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[5] The JCP program was phased out in late 1999 due to the merger of the Alberta Stock Exchange and the Vancouver Stock Exchange to form the Canadian Venture Exchange (CDNX). The CDNX began offering a variation on the JCP program, called the Capital Pool Company (CPC) program. This program was retained after the CDNX merged with the Toronto Stock Exchange to become the TSX Venture Exchange, a national second-tier market, in 2002.

dealers would be given options, usually around 10% of the issued shares, with an exercise price equal to the price paid by outside shareholders. As reported in Robinson (1997), the average cost to list a JCP rose from around $12,000 in 1986 to just over $30,000 in 1992. On a percentage basis, the average listing costs ranged from a low of 12.62% to 17.98% of capital raised between 1986 and 1992. This compared favourably with the average cash expenses of 20.15% of issue proceeds for best efforts underwritings of small U.S. firms between 1977 and 1982 as reported by Ritter (1987).

Although the prospectus for a JCP offering was very explicit that the firm did not have any existing business activities at the time of its IPO, some founders did specify an industry in which they were expecting to find a Major Transaction. This industry choice would typically reflect the founders' background and existing business contacts. It was not necessary that the firm's Major Transaction actually match the indicated industry, but in many cases the two were the same. Specifying the industry of the potential Major Transaction would serve to provide a signal to potential investors of the likelihood that the JCP would in fact be able to complete the transaction. If this served as a credible signal, then it is expected that the success rate for JCP firms that specified a potential industry should be higher than for those in which no such industry was specified. It is also expected that given Calgary's role as the oil/gas capital of Canada, that there would likely be more deals available in this industry than other industries.

For these reasons, we argue that JCPs will execute the transaction faster and with a higher probability if they specify their industry in the prospectus. We believe these predictions about rates and probabilities will be especially strong in the oil & gas industry.

To examine these propositions, we first computed summary statistics for JCP listings and Major Transactions by industry (as indicted in the JCP prospectus), see Table 3. This table illustrates that while over 20% of the prospectuses indicated a potential deal in the oil/gas industry, there was a wide variety of potential industries identified. One industry category in Table 1 is labeled, Pre-JCP Firms, and this represents those firms that were listed as blind pools before the official adoption of the JCP program, and which were grandfathered under the JCP program in 1986. The results show that if the prospectus identified a potential industry the firm had a much higher chance of actually completing a Major Transaction within the allotted time

period. As well, the time to complete the transaction was much lower if an industry was specified and was the lowest for the oil/gas industry. Thus, the results in Table 3 are consistent with the above two Propositions, although the propositions will be tested in more detail in subsequent analysis.

Another measure of the success of the JCP program is whether firms that began as a JCP were able to complete the required transaction, build a business, and remain publicly listed over time. Table 4 shows that approximately 1/3 of firms that began as JCPs were no longer listed on the ASE at the end of 1999. To illustrate the positive affect that the intervention of the regulators had on the development of this program in 1986, the table indicates that the delisting rate was significantly higher (over 60%) for those blind pools that were started before the JCP regulations were implemented. The table also lists three reasons why a firm may no longer be listed on the ASE, 2 positive reasons (the firm was taken over, or it graduated to a more senior exchange), and one combined negative reason (the firm did not complete its Major Transaction or was delisted for any other negative reason). The table shows that the rate of delisting for negative reasons was much lower for oil/gas, mining, and real estate firms, than for all other firms. Thus, it appears that firms with an intended business based on physical assets had a much higher survival rate.

Event Models of Junior Capital Pool Major Transactions

We also model the time between when a firm is listed as a JCP and successful completion of the major transaction using hazard rate, or event, models. These techniques are important when the outcome variable is restricted to a positive value and when there is censoring of the data. It is evident that our data of wait times between the JCP initial offering and the execution of the major transaction are strictly positively valued. The ability to treat censored observations is also important to the analysis of this data. Because not all initial offerings are followed by the execution of a major transaction, we have censored observations. There are two common reasons that censoring occurs in the data: end of observation period, or lack of event. The former occurs when the transaction under consideration has not yet occurred by the time we stop observing the data. The latter occurs because the securities are delisted for some reason, such as failure to meet continuous listing requirements.

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There are a number of accelerated failure time parametric models that may be employed in our analysis. We choose the Cox proportional hazard model because it allows us to be agnostic about the form of the hazard function. This allows us to specify a statistical model without asserting knowledge about the underlying distribution of the data generating process. Our wait-time-to-major-transaction, then, is assumed to occur at a specified "hazard rate" which we denote by λ. Specifically, we model:

$$\lambda(t;\mathbf{z}) = \exp(\mathbf{z}\boldsymbol{\beta})\lambda_0(t)$$

In this notation, the $\mathbf{z}$ is the vector of covariates of interest and the $\boldsymbol{\beta}$ are the parameter estimates. The benefit of the Cox-proportional hazard model is the use of λ_0, which is termed the "baseline" hazard rate. Without being required to arbitrarily specify this rate, we can estimate the effect of the covariates on this unobserved rate. Positive values of the parameter estimate covary with an increase in the rate. Since, in our case, this is the rate of time to major transaction, a positive covariate indicates that the time is reduced when the covariate is positive. We test model fit as the likelihood ratio χ^2 statistic to determine if the parameters are different from zero. All of the models tested fit at a level statistically significant better than 5%. The parameters are estimated using maximum likelihood, but since the underlying "baseline" hazard rate is not specified, the technique only maximizes the proportional effect. For this reason, the estimation technique is called a "partial likelihood." Partial likelihood estimates produce larger standard errors in the parameter estimates, so we allow for larger significance levels in discussing the coefficients. Please see Table 5 for summary statistics of the data used in the regressions.

Predicted Relationships

Our dependent variable is the number of days from the initial listing until the completion of the major transaction. As we stated earlier, there are situations where the major transaction does not occur, either because we have not been able to observe for a long enough period, or because some other event has made the major transaction impossible.

Total Capital and insider/outsider effects

We expect that larger deals, measured by total capital raised, will be more complex and

require greater time to complete the major transaction. In the regressions, seed capital represents founder contribution to the total capital raised. Since insider shares are held in escrow, this investment is not liquid; we expect insiders to move to consummate the major transactions more quickly as their investment increases. However, to the extent that the insiders have a significant portion of their personal wealth invested, they may be more patient in waiting for the right transaction, and we capture this in covariate total value of seed capital. Seed ownership measures the percent of the company owned by insiders, and it is an attempt to capture managerial control.

Year

We know from the history of the program that regulators were concerned about the agency problems in raising capital. We expect regulators to play a more hands-on role early in the program in order to establish its credibility. Thus, we do not expect a linear relationship between the age of the program and the transaction probability. To measure this, we introduce model yearly dummies to measure the effect on the hazard rate. For these reasons, we expect time to major transaction to occur more quickly in the early years of the program.

Program activity

We measure the level of activity in the JCP within the period 3 months prior and 3 months after the transaction. Analogous to hot and cold IPO markets, there are periods of high and low numbers of transactions in the program. See also the earlier description of the data in Table 1.

Market Level

Studies of IPO activity have found it to increase with market level as issuers scramble to market to take advantage of high prices, perhaps due to peaks in the economic cycle. When the economic cycle turns around, fewer firms are interested in issuing, fear underpricing across the market. In relatively higher markets, then, firms execute their JCP IPO faster than they otherwise would prefer. We would expect longer times to a major transaction with higher levels of the market index, which in our case is the TSE 300, or its successor the TSX.

Regression Results

This section presents the results of the Cox proportional hazard models. Please refer to the table labeled **Model 1**. As we indicated, negative coefficient's correlate with a longer time to

complete the transaction, and positive correlates with accelerated transaction times. The final column in the table provides some economic intuition for the statistical property. A hazard ratio of 0.5 moves at about ½ of the rate, a ratio of 1.0 implies that the covariate has little effect on the rate, and one with a ratio of 2.0 moves at double the pace. Our first model is the result of a regression of all observations comparing the speed to major transaction of specified industries with unspecified industries. The positive coefficients for industries Oil & Gas, Minerals & Mining, Real Estate and Industrial support the proposition that transactions in specified industries move to the major transaction much more quickly than when the JCP does not specify the industry. The accompanying hazard ratios demonstrate the economic significance of these statistically significant estimates.

We also note that the negative coefficients on years subsequent to 1987 indicate that the time between listing and major transaction has increased relative to the first 2 years of the program. As we described above, this may be partly due to the program delay in 1986 and partly perhaps to less aggressive regulatory screening as the program matured.

We next turn to an analysis of the time to major transaction in the oil & gas industry. Please refer to **Model 2**. The coefficients of interest here are the effect of seed ownership percentage and total value of seed capital. We predicted that the greater the control of insiders, the more delay we would expect due to the ability to search for the best price. However, as the value of the insider investment increases, and hence the significance of the illiquidity to their personal portfolio, the rate of time to major transaction would decrease. The signs of the coefficients, and the related hazard ratio, support this line of reasoning. In regressions not reported here, we estimated seed percentages in 10% increments in an attempt to measure nonlinearities in ownership percentage (as in Morck, Shleifer, Vishny, 1988 or McConnell & Servaes, 1990), but found no significant results.

Finally, we turn to a contrast between observations in the resource industries (Oil & Gas and Mining) against Technology industry major transactions. Our coding of the technology industry indicates that the transaction is in the field of information technologies such as computing and telecommunications. Please refer to **Model 3.** The regression shows the same relative importance of seed ownership in the contrast of these resource industries with technology. What this regression also shows is the relative uncertainty associated with technological development in contrast to resource industries.

6.   Summary And Conclusions

The JCP program was started in 1986 with the goal of helping small entrepreneurial firms in Alberta raise equity capital. The program was very successful in increasing the number of publicly listed firms in the province, as 1,072 new firms were listed over the period 1986 through 1999. The results of this study provide strong evidence that the JCP program has been a successful method of raising high-risk equity capital for start-up ventures in Alberta. The vast majority of firms that used this method of financing were able to complete Major Transactions and become viable businesses that were still in existence at the end of 1999. The program allowed entrepreneurs to grow their firms from an aggregate initial equity base of $113.7 million to a public equity base of over $3 billion.

These results provide evidence that it is possible to establish a system for financing high-risk equity ventures using public stock exchanges as long as there are strict regulations governing the program, and careful monitoring of the program once it is established. In the first year of its existence, Alberta's JCP program experienced some of the problems that have plagued similar programs in the U.S., but Alberta regulators reacted quickly to these events and minimized the damage to Alberta's investing public and to the reputation of the program.

Empirical evidence suggests that this program is best suited to entrepreneurs who are seeking to develop a firm based on tangible assets. It also was the most successful in helping develop firms in industries that already had an established presence in the jurisdiction, in the case of the province of Alberta in the oil/gas industry. It was more difficult for entrepreneurs to find Major Transactions, and develop viable long-term businesses, in industries that were not as well represented in the province's economic base, but there were some notable successes in every industry. Thus, the program did have a secondary benefit of increasing the industrial diversification of the province.

While the JCP program has a number of positive characteristics, the firms that graduate from the program (and other small public firms) still face a number of agency problems. As small firms develop, there are changes in the environment and increases in the complexity of the organization. These developments may cause the firm to outgrow the capabilities of its

founders. Unfortunately, a high management ownership stake may lead to management entrenchment, shirking or the drawing of excessive compensation. An unresolved issue is how to develop mechanisms, or more effectively use existing mechanisms, to minimize agency problems as small public firms grow.

While the evidence suggests that the JCP program has been effective in Alberta, it is uncertain whether the program can be migrated to other jurisdictions. One perspective is that "the JCP worked because of restrictive rules, the regional club atmosphere and the unique conditions that existed at that time" (Kirzner, 1997: 681). Kirzner, who was based in Ontario, also questioned whether the program could be effectively adopted in other Canadian jurisdictions. Within one year, however, a competing program, the Venture Capital Pool (VCP) program had been adopted in the province of British Columbia for firms seeking to raise public equity capital in that province and to seek a listing on the Vancouver Stock Exchange (VSE). As previously discussed, when the Alberta and Vancouver Stock Exchanges merged to form the Canadian Venture Exchange (CDNX) in 1999, the JCP and VCP programs were merged into the newly named Capital Pool Company (CPC) program. In 2002, the merger of the CDNX with the Toronto Stock Exchange created a national second-tier equity marketplace for small firms entitled the TSX Venture Exchange. During that year, the CPC program was extended to the provinces of Ontario, Quebec, Saskatchewan and Manitoba. Additional Canadian provinces have adopted the program since that time. Thus, a junior equity financing program that was successfully operating in Alberta since 1986 has become adopted in all Canada's large capital centers. This provides evidence that a program such as the JCP program can be adopted in other jurisdictions.

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TABLE 1
INITIAL CAPITAL RAISED BY JCP COMPANIES PER YEAR

Year	Number Listed	Seed Capital ($Million)	IPO Capital ($ Million)	Total Capital ($ Million)
1986	22	0.763	1.467	2.229
1987	169	6.183	15.487	21.670
1988	158	6.579	18.563	25.142
1989	24	1.027	3.318	4.345
1990	8	0.457	1.245	1.701
1991	9	0.461	1.380	1.841
1992	17	1.042	2.970	4.012
1993	55	3.509	10.775	14.284
1994	99	10.238	23.789	34.027
1995	88	10.022	22.013	32.035
1996	100	13.774	24.860	38.634
1997	145	24.068	36.555	60.623
1998	117	21.450	27.821	49.271
1999	59	14.163	10.569	24.732
TOTAL	1,070	$113.735	$200.811	$314.546

TABLE 2
AVERAGE CAPITAL RAISED PER JCP COMPANY BY YEAR

Year	Number Listed	Seed Capital ($)	IPO Capital ($)	Total Capital ($)
1986	22	34,659	66,668	101,327
1987	169	36,545	91,638	128,224
1988	158	41,640	117,487	159,128
1989	24	42,805	138,246	181,051
1990	8	57,063	155,625	212,688
1991	9	51,199	153,333	204,533
1992	17	57,875	165,000	222,875
1993	55	63,794	195,909	259,703
1994	99	103,413	240,293	343,705
1995	88	112,610	247,331	359,941
1996	100	137,741	248,600	386,341
1997	145	165,985	252,103	418,088
1998	117	183,337	237,785	421,122
1999	59	240,044	179,136	419,180
TOTAL	1,070	$106,096	$187,324	$293,419

TABLE 3
JCP MAJOR TRANSACTIONEXPERIENCE BY POTENTIAL INDUSTRY
(AS IDENTIFIED IN PROSPECTUS)

Industry	Number Listed	Number that Completed a Major Transaction[1]	Number Still Looking for a Major Transaction[1]	Number Delisted without Completing a Major Transaction[1]	Average Number of Days to Complete a Major Transaction[1]
Oil & Gas	224	217	3	4	311.8
Mining	75	74	0	1	341.7
Real Estate	41	37	4	0	407.6
Industrial	157	148	2	7	347.1
Technology	32	28	2	2	475.5
No Industry Indicated	520	372	105	43	490.1
Pre-JCP Firms	21	14	0	7	846.77
TOTAL	1,070	890	116	64	412.10

[1] As of December 31, 1999.

TABLE 4
JCP DELISTING EXPERIENCE BY INDUSTRY (AS IDENTIFIED IN PROSPECTUS)

Industry	Number Listed and Not Still Looking for an MT[1]	Number Delisted[1] [% Shown in Brackets]	Number Delisted (Acquired) [% Shown in Brackets]	Number Delisted (Moved to a Senior Stock Exchange) [% Shown in Brackets]	Number Delisted (Did not Complete an MT or Other Negative Outcome) [% Shown in Brackets]
Oil & Gas	221	77 (34.84%)	17 (7.69%)	38 (17.19%)	22 (9.95%)
Mining	75	17 (22.67%)	1 (1.33%)	5 (6.67%)	11 (14.67%)
Real Estate	37	9 (24.32%)	0 (0.00%)	3 (8.11%)	6 (16.22%)
Industrial	155	59 (38.06%)	2 (1.29%)	13 (8.39%)	44 (28.39%)
Technology	30	12 (40.00%)	0 (0.00%)	3 (10.00%)	9 (30.00%)
No Industry Indicated	415	127 (30.60%)	9 (2.17%)	15 (3.61%)	103 (24.82%)
Pre-JCP Firms	21	13 (61.90%)	0 (0.00%)	1 (4.76%)	12 (57.14%)
TOTAL	954	314 (32.91%)	29 (3.04%)	78 (8.18%)	207 (21.70%)

[1] As of December 31, 1999.

TABLE 5
SUMMARY STATISTICS FOR COX PH REGRESSIONS (N=1041)

Variable	Mean	Std Dev	Min.	Max	Unit of Variable
Days from Listing to Major Transacti	463.223	353.205	7	2709	No. of days
Total Capital raised	2.965	1.369	0.6	5.660	$100,000's Total IPO capital raised
Seed Capital "	1.074	0.793	0.1	3.660	$100,000's Capital contributed by insiders
Initial Capital "	1.891	0.827	0.3	4.250	$100,000's Capital raised from outsiders
Seed ownership	0.526	0.094	0.130	0.893	Percent insider position of seed capital
Total value of seed capital	1.571	0.855	0.220	4.245	$100,000's Value of total capital held by insiders
log(Total Capital)	5.413	0.243	4.778	5.753	
log(Seed Capital)	4.908	0.338	4.000	5.563	
log(Initial Capital)	5.224	0.230	4.477	5.628	
Year	1993	4.286	1986	1999	Year IPO listing occurs
JCP Activity	63.804	27.665	3	113	Number of IPOs within +/- 3 months of the IPO
Market Level	4798.770	1404.130	2838	7818	TSX 300 index on day of IPO
Binary Variables					
Censor	0.175	0.380	0	1	Binary (1=Major transction)
Industry Dummies					
Oil & Gas industry	0.215	0.411	0	1	
Minerals & Mining	0.072	0.259	0	1	
Real Estate	0.039	0.195	0	1	
Industrial	0.151	0.358	0	1	
Technology	0.030	0.170	0	1	
No specific industry listed	0.493	0.500	0	1	
Year Dummies					
1986	0.001	0.031	0	1	
1987	0.165	0.372	0	1	
1988	0.149	0.356	0	1	
1989	0.023	0.150	0	1	
1990	0.008	0.087	0	1	
1991	0.009	0.093	0	1	
1992	0.016	0.127	0	1	
1993	0.053	0.224	0	1	
1994	0.095	0.293	0	1	
1995	0.085	0.278	0	1	
1996	0.094	0.292	0	1	
1997	0.139	0.346	0	1	
1998	0.112	0.316	0	1	
1999	0.051	0.220	0	1	

Note: We eliminated from the regressions 21 of the 1,070 observations that were for firms listed during the pre-JCP years as our earlier analysis showed they had very different characteristics from other JCP firms. As well, we were unable to collect all relevant covariates for a small number of JCP's. Thus, there are 1,041 observations used in the regressions, while there were a total of 1,070 transactions. The regression results are not sensitive to this treatment.

Model 1: Regression of all Covariates on the Time to Major Transaction (N=1041).

Variable	Coefficient Estimate	Std. Error.	Signif.	Hazard Ratio
log(Capital Total)	0.099	0.627		1.105
log(Capital Seed)	0.414	0.359		1.513
Seed ownership	-0.634	0.818		0.531
Total value of seed capital	0.229	0.170		1.258
JCP Activity	-0.002	0.002		0.998
Market Level	-0.0002	0.0001	*	1.000
Oil & Gas industry	0.956	0.095	***	2.601
Minerals & Mining	0.747	0.134	***	2.110
Real Estate	0.394	0.182	**	1.483
Industrial	0.748	0.103	***	2.112
Technology	0.245	0.205		1.277
1988	-0.259	0.129	**	0.772
1989	-0.230	0.285		0.795
1990	-0.110	0.424		0.896
1991	-0.570	0.416		0.565
1992	-0.208	0.329		0.812
1993	-0.068	0.215		0.934
1994	-0.554	0.184	***	0.575
1995	-0.386	0.195	**	0.680
1996	-0.362	0.196	*	0.697
1997	-0.215	0.233		0.807
1998	0.036	0.260		1.037

Model fit

Likelihood ratio X^2	165.335			
Degrees of Freedom	22			
Statistical significance	0.0001			

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level

Model 2: Time to Major Transaction in the Oil & Gas industry (N=224)

Variable	Coefficient Estimate	Std. Error.	Signif.	Hazard Ratio
log(Capital Total)	-2.647	1.349	**	0.071
log(Capital Seed)	1.920	0.924	**	6.819
Seed ownership	-4.875	2.056	**	0.008
Total value of seed capital	0.700	0.379	*	2.014
JCP Activity	-0.002	0.006		0.998
Market Level	-0.0008	0.0003	***	0.999
Oil & Gas industry				
Minerals & Mining				
Real Estate				
Industrial				
Technology				
1988	-0.231	0.245		0.794
1989	0.239	0.690		1.27
1990	-0.666	1.212		0.514
1991	-1.159	1.149		0.314
1992	-0.101	0.662		0.904
1993	0.385	0.475		1.469
1994	-0.382	0.465		0.682
1995	-0.163	0.552		0.85
1996	0.143	0.708		1.154
1997	1.392	0.819	*	4.022
1998	1.702	1.082		5.484
Model fit				
Likelihood ratio X^2	28.503			
Degrees of Freedom	17			
Statistical significance	0.0394			

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level

Model 3: Contrast of Resource and Technology Industry Major Transactions. (N=330)

Variable	Coefficient Estimate	Std. Error.	Signif.	Hazard Ratio
log(Capital Total)	-1.397	1.033		0.247
log(Capital Seed)	1.071	0.684		2.918
Seed ownership	-3.496	1.594	**	0.030
Total value of seed capital	0.757	0.317	**	2.133
JCP Activity	-0.0002	0.005		1.000
Market Level	-0.0004	0.0002	**	1.000
Technology	-0.665	0.210	***	0.514
1988	-0.154	0.203		0.857
1989	0.324	0.635		1.382
1990	-0.464	0.871		0.629
1991	-0.451	0.848		0.637
1992	-0.107	0.555		0.898
1993	0.182	0.403		1.200
1994	-0.655	0.397	*	0.519
1995	-0.690	0.451		0.502
1996	-0.164	0.550		0.849
1997	0.330	0.681		1.391
1998	0.186	0.900		1.204

Model fit

Likelihood ratio X^2	42.690
Degrees of Freedom	18
Statistical significance	0.0009

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level